March (Alden)

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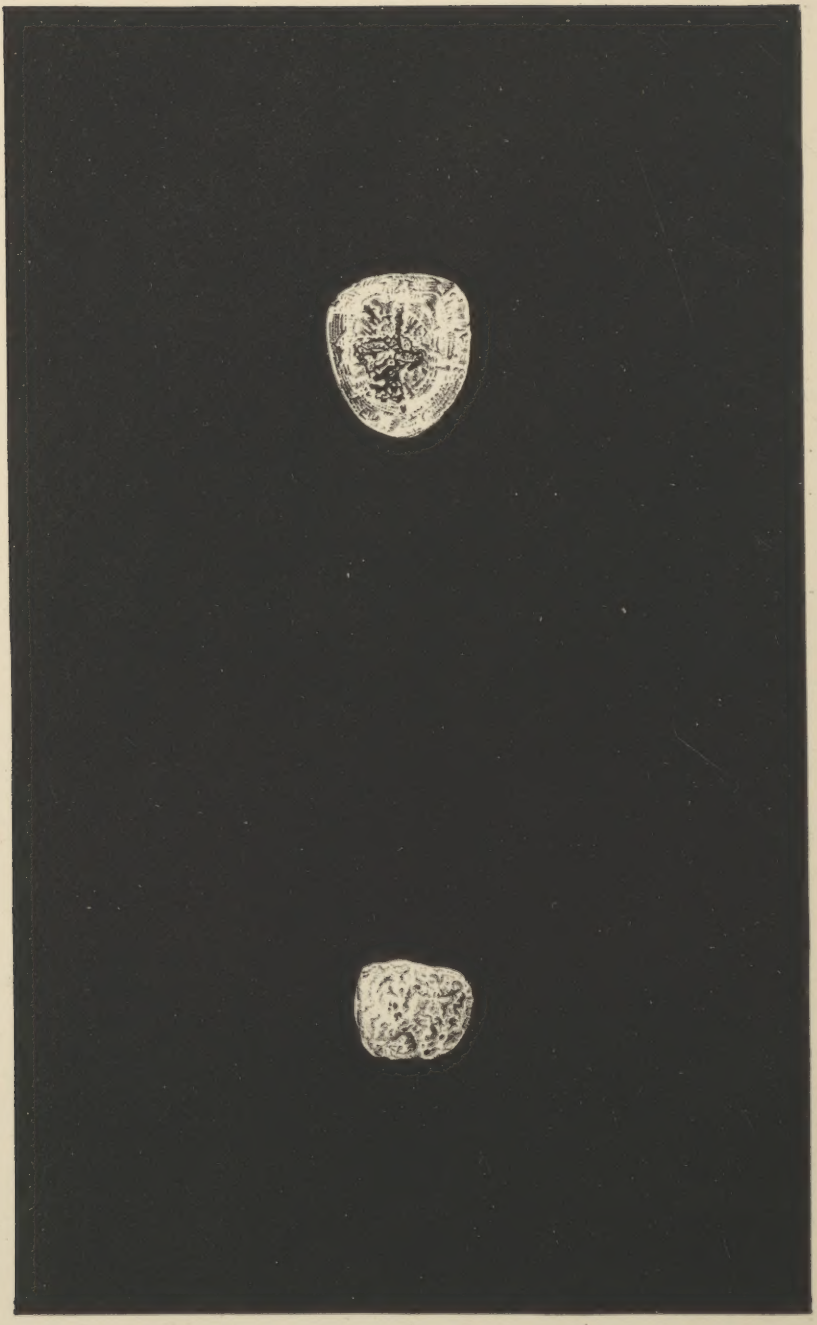
OF A

BILIARY CALCULUS.

BY ALDEN MARCH, M. D.



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OF ALBANY.

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Extraordinary events, in the common affairs of life, are noteworthy, and are entitled to the consideration of those who delight in the marvelous not only, but also of the philosopher—the profound observer of nature. So when extraordinary and anomalous cases connected with the art and science of physic and surgery present themselves to the mind of the physician and surgeon, not in the light of some unexplained and unexplainable phenomenon, but in the light of a natural law of cause and effect, they are worthy of the deepest interest and sober reflection of the medical profession.

What has happened once may happen again, as we learn from the perusal of the learned paper of our friend from Westchester county, who presented us last year with a history of monstrosities and anomalies, during a period of more than three hundred years, commencing with the year 1549 and closing with the year 1863, and occupying nearly nineteen pages of our "Transactions" in mere bibliography.

Congenital deformities and monstrosities, that were observed from time immemorial, continue to happen as frequently now as at any former period of the world's history. Such deformities may consist in a deficiency, or arrest of development, as in cases of hare-lip, cleft palate, defective urethra of the male organ, the acephalous fœtus, absence of fingers and toes, congenital amputation, &c.; or extra organs and parts, as in supernumerary fingers and toes. But when accident and disease result in curious and anomalous developments, the medical man is called upon to give a rational explanation of the product of such strange developments, and to provide the appropriate means of relief.

The attention of the Society is solicited for a brief period to the consideration of the history and result of a curious and deeply interesting case of what we propose to call "An unusual place of lodgment and exit of a biliary calculus."

We shall first present (with a few verbal alterations) the case as drawn up by young Dr. P. V. S. Pruyn, of Kinderhook, under the direction of Dr. S. G. Talmadge, of Valatie, the attending physician, and then add our comments. If by a further and more extended investigation of the subject, a parallel or a similar case has been observed and placed on record, it will only tend to confirm the trite saying of the wise man of old, "There is nothing new under the sun."

"The following extraordinary case of the singular course and final expulsion of a gall stone occurred in the person of Frank A——, of Valatie,

N. Y., a young merchant of twenty years of age, rather short in stature and slightly built, and of a peculiarly active temperament. He had generally enjoyed good health, living to a great extent in the open air; but when quite young had had a severe fall, which caused at the time some pain and swelling of his right leg, resulting in a slight degree of atrophy and shortening, amounting at the present time to an inch and a half. This led to the suspicion that he was threatened with hip disease, to which many of the symptoms, which I shall presently describe, were referred, thus adding obscurity to a case already sufficiently difficult of diagnosis.

"On the 14th of March, 1864, he was attacked with diphtheria, from which, under the ordinary treatment, he recovered in the course of time. From his getting out too soon, he was attacked in April by a pretty severe quinsy, from which he also recovered. In the following May he suffered from an attack of bilious colic of considerable severity, lasting twelve hours, accompanied by vomiting and severe pain in the right side and across him. This, too, yielded to anodyne treatment, but was succeeded by acute rheumatism, with swelling of the joints, mostly of the right limb. This was accompanied by severe pain in the right side, running around from the right hypochondriac to the right lumbar region. During the continuance of this attack he had great difficulty of moving the right side, and when able to get up was obliged to walk bent over to that side. Pressing upon the affected side and moving around the room, seemed to afford him most ease.

"After a rather tedious convalesence, he was again able to go around, but owing to his unwillingness to be quiet, he went about too much; exposing himself to night air, &c. He still continued to complain much of his side—the pain being so severe as at last to compel him to walk with a cane. He might be seen in his store frequently lying on the counter, with his limbs curled up or flexed upon his body.

"This was attributed to the remains of his rheumatism. Various means were resorted to for relief, which proving unsuccessful, their failure was charged upon his irregular manner of living, and frequent imprudent exposures. He thus continued to go about until the last of January, 1865, when he was compelled to remain in the house, and in about a week was confined to his bed. This occurred about the 8th of February following. At this time the pain in his right side was much more severe. He lay curled up in bed, unable to straighten out his limbs. When lying on his back or left side, he complained of an exquisite sensitivenesss of that side. so that it could hardly be touched or suffer him to be moved.

"Up to this time, nothing that would give a clue to the nature of the case was revealed by the appearance of the side—no swelling being discernible, and the soreness being so generally diffused as to afford no additional information. The pain now became so severe that anodynes, in considerable quantity, were needed to allay it; and partly in consequence of their administration, and partly by reason of his confinement, his bowels became very torpid—moving at one period only twice in three weeks, and requiring large quantities of cathartic medicines to produce any effect. On the 5th of March, a blister was applied to the right iliac region above the crest of the ilium, and some days afterward, it (the pain) was found to have moved below. This being probably occasioned by his being at that time able to draw his leg down for the first time.

"A swelling now began to appear, situated below the crest of the ilium, and about midway between the anterior superior spinous process of the ilium, and the sacro iliac sonchondrosis. What was most singular, the swelling at times would be quite prominent, and apparently almost ready

to open, and then it would disappear almost entirely. The tumor now increased more rapidly, and was finally opened the last of March, when it had attained considerable size; and when thus opened, a sudden puff of gas followed the insertion of the instrument. It was noticed that the tumor became much less prominent, even before any matter escaped, which, though healthy, was inconsiderable—very much less than the size of the swelling would have led one to expect. It finally opened in two or three places, and continued to discharge gas and healthy matter till sometime in May, when it became ichorous, and dead bone began to be suspected from the pouting aspect of the ulcer.

"His pain, though still considerable, had much abated, and his appetite, which, during the severity of the pain was scarcely anything, had much improved.

"He soon became able to sit up, and to walk, with crutches, and by the first of June was out, and had even ventured on a journey to New York. On his return, it was found that the sore looked less healthy, and Dr. March having seen the case advised an operation—to freely lay open the abscess, and remove the sequestra, if any existed.

"He appointed July 6th, as the day for the operation; and, at that time, the condition of the patient was as follows: Although able to be about, his general health was imperfectly restored. His right limb was somewhat drawn up, and about one and a half inches below the crest of the ilium and midway between the anterior superior spinous process of the ilium and sacro-iliac synchondrosis, there was an ill conditioned ulcer, having several openings. On introducing the probe, sinuses were found to extend in different directions for two or three inches transversely.

"The patient being put under the influence of ether, these sinuses were laid open on a director, which made a wound of eight inches in length, and two or three in breadth, extending posteriorly to the crest of the ilium, where it curves down to meet the sacrum. Dr. March, in feeling for dead bone, passed his finger over the border of the ilium, and there in the posterior portion of the iliac fossa, in a cavity formed for its reception, he found a hard movable substance, which he removed, and which on inspection, proved to be a gall stone of about the size of a hickory nut. After its removal, the finger could be inserted its whole length, without feeling any defined end to the cavity. The unhealthy appearances of blue skin and fistulous material were removed, and the wound stuffed with lint, and left to heal by granulation. No bone, save a very small piece, was found diseased. The wound healed quite rapidly, and at the end of September 8th, it was almost entirely healed, excepting one spot which discharged, and from which a little gas is still emitted. His general health is now completely restored, and his lameness has nearly disappeared."

Thus far we have the history and treatment of the case, as given by Dr. P. V. S. Pruyn; and in all the essentials, it is presumed to be correct.

It does not appear that the fall which happened to the patient at an earlier period of life, and the atrophy and apparent shortening of the limb, which followed the accident, had any connection with or anything to do in the development and unusual lodgment of the biliary calculus; nor of the *diphtheria*, with which he was attacked on the 14th of March, 1864, nor even the severe *quinsy* which followed in April. The attack of bilious colic in May, 1864, which lasted twelve hours, and was accompanied by *vomiting* and *severe pain* in the *right side*," would seem to indicate the time of the escape of the gall stone from its normal site.

We next find the patient attacked with acute *rheumatism*, which was

manifested by "swelling of the joints, mostly of the right limb, with severe pain in the right side."

If we assume that the gall stone had, at this time, found lodgment in the cellular tissue, over the *quadratus lumborum* and *psoas muscles*, may not the "great difficulty in moving the right side, and the necessity when he walked of bending over to that side," and even the swelling of the limb, be accounted for independent of referring these difficulties to a rheumatic attack?

It appears from this time onward through the summer, fall and winter, the symptoms were severe and persistent, until culminating in an abscess over the haunch bone, which opened, or was opened, the last of March, 1865, when "a puff of gas first escaped and then healthy pus."

We need not review the description of the location and appearance of fistules. Suffice it to say, that without any manual examination, I was under the impression that there was caries of the ilium, and accordingly visited the patient, at the time specified by the reporter, prepared with gouges, chisels and dental scalers, to remove the supposed diseased bone.

(I would here remark, that the forefinger and small-sized curved dental scalers are exceedingly useful instruments in operating on diseased bone, whether carious or necrosed.)

With the forefinger I followed the fistulous track upwards and backwards above the labrum of the ilium, and inwards near the sacro iliac junction, when I felt the foreign body at the depth of nearly the whole length of the finger. A small curved dental instrument was next inserted, with which the gall stone was readily extracted.

The foreign body, as will be perceived on examination, is not quite as large as described by Dr. P. V. S. Pruyn; although when moist, as it was when first extracted, it appeared some larger than at present.

Two questions of considerable importance remain to be solved:

1st. As to the size of the calculus when it passed from the biliary cyst.

2d. As the point and manner in which it escaped from the intestinal canal.

Large sized biliary concretions have been found in the gall bladder to have passed into the intestines, and to have lodged there, or to have passed per anum. But when we consider the size of the *ductus choledochus communis*, it would seem almost impossible that so large bodies as those here exhibited, could by any possibility be made to pass into the intestine through the natural outlet of the gall bladder.

From the location in which the smallest was found, it is to be presumed, that after once entering the duodenum, it readily glided along the intestine, until it found lodgment in the *caput coli*, where it acted as a foreign body, and by its presence produced inflammation and ulceration, sufficiently large to permit its escape into the cellular tissue, when an abscess formed as heretofore described; and that the perforation or fistule in the intestine contracted so much as only to permit gas alone to escape.

If the gall stone was of the size capable of being passed through the duct of normal dimensions, is there any way, by accretion or otherwise, by which the foreign body might be increased while remaining in the alimentary canal?

The specimen found in the rectum, and herewith submitted for inspection, will tend to sustain the affirmative of the question. The history connected with this large specimen of gall stone is exceedingly interesting.

On the first of May, 1863, I was called to see a lady of about 45 years of age, of the town of Hunter, Greene county, N. Y., who it was said was afflicted with stricture of the rectum.

The patient had suffered from costiveness for eight or ten years; and to obtain relief, would resort to the free use of salts and enema. From commencing with small doses, and the occasional use of them, I was informed that the patient purchased 25 pounds at a time, and used them as freely as in the proportion purchased. But, with the free use of salts and often repeated injections, the time had now arrived when these means failed to give relief.

The symptoms which caused my being summoned to the aid of the patient were not unlike those of strangulated hernia, obstruction of the bowels, vomiting and bloating.

The patient was placed under the influence of ether, and a digital examination of the rectum instituted, when a stricture was found so small as hardly to admit the point of the forefinger. With great force it yielded to the pressure of the finger so as to admit it nearly half an inch; and when thus firmly pressed up the rectum it came in contact with some foreign body. A rectum bougie was crowded through the stricture, by which it was in some degree overcome, but not sufficiently so to enable me to extract the foreign body, either by my finger, or with any instrument I then had with me. After the effects of the ether had passed off, and the patient had become conscious, on hearing me state to the attending physician, that I believed there was some foreign body lodged above the stricture, she remarked, that she was quite sure there was; for she had several times felt it with the point of the syringe when using it to procure a movement of the bowels.

The means for dilating the stricture were left with the attending physician, also suitable instruction for the management of the case; and I left the patient with the confident belief that in due time the foreign body, whatever it might be, would be expelled; and to the exceeding gratification of the patient and to all parties concerned, in three or four days the gall stone, herewith exhibited, was evacuated. The patient, almost brought to death's door by great suffering and dangerous symptoms, recovered rapidly, and I believe now is in the enjoyment of good health.

If this body had been of its present size at the time it left the gall bladder, and found its way into the intestinal canal, it would seem almost incredible that the duct and opening into the duodenum should become so much enlarged as to admit it to pass, and yet to contract again down to their normal size. On the other hand, suppose it had passed into the intestine when not larger than a pea, and should have been lodged for many months, or perhaps years, in the villi of the mucous membrane of the intestine, and that the liver continued to perform its function of secreting bile, the constituents of which are water, a peculiar fatty matter, cholesterine, the coloring matter, mucus, soda, phosphate of soda, phosphate of lime, and chloride of sodium, may not the original concretion or gall stone receive all or most of the constituents by *accretion*, in the same way as the urinary cystic calculus increases in *successive layers*, until it attains an enormous size, as it is known to do in many instances.

In most cases the successive layers of deposite or accretion of the gall stone, are nearly as well marked as they are in the urinary calculus.

If this hypothesis be true, then there can be no difficulty in accounting for the formation of such enormous biliary concretions as are occasionally found in or to have passed through the intestinal canal.

On referring to authorities for confirmation of the theory of *accretion* in the intestinal canal of biliary concretions, as above suggested, and of producing obstruction in the intestines, as in the case of the Greene county patient, we find the following in "Watson's Practice of Physic:" "Some-

times a large concretion, after its extrication from the biliary passages, lodges in the more capacious intestines, and gives rise to serious obstruction there." And as to the nature or constituents of the gall stone, he says: "The ordinary calculi consist, in a great measure, of a peculiar substance, *cholesterine*, which exists in a state of *solution* in *healthy bile*, but which, in some morbid conditions of that fluid, being released from its solvent, assumes its *proper crystalline form*."

In the fourth volume of the "Library of Practical Medicine," bearing upon the subject under consideration, we find the following: "Biliary calculi of large dimensions are sometimes voided by stool, or found after death in the intestinal canal. With regard to these, it may be questioned whether the gall ducts are capable of such distention as to have allowed them to pass, or whether they have acquired their large size subsequently to their reaching the intestines, or whether they have been formed exclusively in the biliary passages and entered the intestine by some preternatural route. It is not probable that a biliary calculus can receive any addition from the bile after reaching the alimentary canal, though it is conceivable enough that such a calculus may form the nucleus of an intestinal concretion."

The writer further says, in regard to biliary concretions being discharged externally: "In some cases, biliary concretions are discharged externally by producing abscess and ulceration of the coats of the biliary passages, particularly of the gall bladder and of the parites of the abdomen."

If the *cholesterine* be one of the chief constituents of the gall stone, and if it "exists in a state of solution in healthy bile," as it passes into the intestine, then I should change the sentence of the author of the "Library of Practical Medicine," by leaving out the word "*not*," when it would read nearly as follows, viz: "It *is* probable that a biliary calculus *can* receive additions from the bile after reaching the alimentary canal."

Again, if it "may form the nucleus of an intestinal concretion," why may it not be much more likely to form the necleus of a biliary concretion? I believe that in this way the calculus is increased by accretion or by deposits in a lamelated form, as clearly, though perhaps not as rapidly, when lodged in the intestinal canal as in the gall bladder.

Again, the gall stone found in the rectum, which was about an inch in diameter, if it had found its way from the gall bladder, or from the common duct, by the process of *ulceration*, by *absorption*, or in any *other way*, into the duodenum, it strikes us that such an enormous opening as must necessarily be made for its passage, must have proved fatal at once.

At this point we will leave the whole subject for the further consideration and investigation of the profession.